

PATENT

Application # 09/703,699

Attorney Docket # 2000-0020 (1014-068)

AMENDMENTS

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) In an Internet Protocol (IP) data network comprised of a plurality of interconnected routers, a method comprised of:

receiving at a first router a plurality of IP data packets, the first router directly interconnected by a first plurality of data paths to a first sub-plurality of interconnected routers from the plurality of interconnected routers;

tabulating at said first router a plurality of source counts of IP data packets, each source count of IP data packets of said plurality of source counts of IP data packets indicative of a count of packets received from any a particular IP source during a first time interval, said plurality of source counts of IP data packets associated with every source that provides IP data packets to said first router;

tabulating at said first router a plurality of destination counts of IP data packets, each destination count of IP data packets of said plurality of destination counts of IP data packets indicative of a count of packets routable to a particular IP destination address during said first time interval;

storing each of said count plurality of source counts of IP data packets and each of said plurality of destination counts in a memory device for subsequent processing;

determining that a time-based data traffic measure from said particular IP source exceeds a predetermined threshold, said time based traffic measure based upon a particular source count of said plurality of source counts; and

responsive to said determining step, sending a message to a second router, said message adapted to instruct said second router to discard packets from said particular IP source associated with said time-based traffic measure, wherein said second router is not a

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source router for said packets, the second router directly interconnected by a second plurality of data paths to a second sub-plurality of interconnected routers from the plurality of interconnected routers.

2. (Currently Amended) The method of claim 1 further including the steps of:
reading said ~~count-time-based traffic data measure of IP data packets~~ from said memory device; and
selectively discarding IP data packets received at said first router ~~that originated from said particular source responsive to said determining step.~~
3. (Previously Presented) The method of claim 1 wherein said first router is an IP data router switching system.
4. (Currently Amended) The method of claim 2 wherein said step of selectively discarding IP data packets includes the step of denying reception of IP data packets from a particular router based upon a source address in IP data packets ~~upon the determination that the count of IP data packets from a source address exceeds a threshold value based upon said determining step.~~
5. (Currently Amended) In an Internet Protocol (IP) data network comprised of a plurality of interconnected routers, a method comprised of:
receiving a plurality of IP data packets at a first router, the first router directly interconnected by a first plurality of data paths to a first sub-plurality of interconnected routers from the plurality of interconnected routers;
tabulating at said first router a plurality of source counts of IP data packets, each source count of IP data packets of said plurality of source counts of IP data packets

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indicative of a count of packets received from a particular IP source during a first time interval, said plurality of source counts of IP data packets associated with every source that provides IP data packets to said first router;

tabulating at said first router a plurality of destination counts of IP data packets, each destination count of IP data packets of said plurality of destination counts of IP data packets indicative of a count of packets routable to any a particular IP destination address during a said first time interval;

storing each of said count of IP data packets, said count routable to a particular IP destination address plurality of source counts and each of said plurality of destination counts in a memory device for subsequent processing;

determining that a time-based data traffic measure for packets routable to the particular IP destination exceeds a predetermined threshold, said time based traffic measure based upon a particular destination count of said plurality of destination counts;
and

responsive to said determining step, sending a message to a second router, said message adapted to instruct said second router to discard packets associated with said time-based traffic measure routable to said particular IP destination, wherein said second router is not a source system for said packets, the second router directly interconnected by a second plurality of data paths to a second sub-plurality of interconnected routers from the plurality of interconnected routers.

6. (Currently Amended) The method of claim 5 further including the steps of:
reading said count of IP data packets time-based traffic data measure from said
memory device;

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~~selectively inhibiting the a transmission of IP data packets from said first IP data switching system router when the number of IP packets routable to said particular IP destination exceeds a predetermined number responsive to said determining step.~~

7. (Currently Amended) The method of claim 5 wherein at least one of said first router and said second router is an IP data router switching system.

8. (Previously Presented) The method of claim 6 wherein said step of selectively inhibiting the transmission of IP data packets includes the step of sending a message to a specific router to discard messages either received from or sent to a specific IP address, the specific router not a source for said messages.

9. (Currently Amended) A method comprising:

in an Internet Protocol (IP) data network that comprises a plurality of interconnected routers at a first router, determining that a time-based data traffic measure from ~~any a~~ particular IP source exceeds a predetermined threshold, the first router directly interconnected by a first plurality of data paths to a first sub-plurality of interconnected routers from the plurality of interconnected routers, the time-based data traffic measure based upon at least one of a source count of a plurality of source counts or a destination count of a plurality of destination counts, each source count of IP data packets of said plurality of source counts of IP data packets indicative of a count of packets received from a particular IP source during a first time interval, each destination count of IP data packets of said plurality of destination counts of IP data packets indicative of a count of packets routable to a particular IP destination address during said first time interval, each of said plurality of source counts and said plurality of destination counts tabulated and

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stored at the first router, said plurality of source counts of IP data packets associated with every source that provides IP data packets to said first router; and

responsive to said determining step, sending a message to a second router, said message adapted to instruct said second router to discard packets from said particular IP source, wherein said second router is not a source router for said packets, the second router directly interconnected by a second plurality of data paths to a second sub-plurality of interconnected routers from the plurality of interconnected routers.

10. (Previously Presented) The method of claim 9, further comprising:
overwriting packets in a buffer responsive to said determining step.
11. (Previously Presented) The method of claim 9, further comprising:
providing said time-based data traffic measure to a user via a user interface.
12. (Previously Presented) The method of claim 9, further comprising:
sending said message to a sub-plurality of routers.
13. (Previously Presented) The method of claim 9, further comprising:
ignoring incoming packets from said particular IP source.
14. (Previously Presented) The method of claim 9, further comprising:
determining said predetermined threshold.
15. (Previously Presented) The method of claim 9, further comprising:
automatically polling a memory for information indicative of said time-based data traffic measure.

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16. (Previously Presented) The method of claim 5, further comprising:
overwriting packets in a buffer responsive to said determining step.
17. (Previously Presented) The method of claim 5, further comprising:
providing said data traffic measure to a user via a user interface.
18. (Previously Presented) The method of claim 5, further comprising:
sending said message to a sub-plurality of routers.
19. (Previously Presented) The method of claim 5, further comprising:
ignoring incoming packets to said particular IP destination.
20. (Previously Presented) The method of claim 5, further comprising:
determining said predetermined threshold.